White Paper

The DMP Approach to Digital Cellular Central Station Signaling

DMP Offers HSPA+ and CDMA connectivity to maximize affordability, availability and longevity

The use of cellular alarm communications has increased dramatically in recent years since the alarm industry began offering communicators that worked over a digital cellular data connection. In some cases digital cellular data communications is used as a backup to other technologies such as a traditional phone line or data communications over a landline broadband connection using Internet protocol (IP) communications.

A digital cellular data connection can also be used as the sole communications method because the communicator can be programmed to check in with the central station at frequent intervals so that the central station knows almost immediately if communications are interrupted. As a result of this capability, several models of DMP digital cellular communicators are UL approved for use as the stand-alone method for commercial fire installations when used with the appropriate fire panel.

The method of data transmission to the central station receiver distinguishes DMP digital cellular alarm communication from others on the market. Some other cellular communicators do not communicate directly with the receiver. Instead they send alarm data to a clearinghouse where it is then interpreted and retransmitted to a central station receiver over the Internet. DMP cellular products, however, are designed to establish a direct connection, which makes communication faster and more reliable. This approach also makes it possible for DMP dealers to make alarm panel programming changes over the digital cellular connection using DMP Remote Link™ software. Remote Link can be used with either a desktop or laptop computer.

DMP cellular alarm communicators are designed to work with cellular service from SecureCom Wireless, enabling dealers to get systems up and running quickly and offering alarm dealers a consolidated bill that is broken out by account number. Underlying the SecureCom service are cellular networks operated by some of the nation's largest cellular carriers. SecureCom has negotiated agreements with those carriers in order to be able to offer rate plans that are tailored for the unique needs of the alarm industry.

For the dealer, digital cellular communications provides new recurring revenue potential and increases customer loyalty by binding customers more closely to the dealer.

DMP cellular alarm communicators can send text message alerts to homeowners' cellphones when an alarm signal is generated or when the system is armed or disarmed. The alarm system also can be armed or disarmed using text messages sent from customers' cellphones or through an app that can be downloaded to Android™ devices, iPhones® or iPads®.

DMP now offers alarm communications designed to work over some of the latest-generation digital cellular data networks. These include CDMA networks using 1XRTT for data communications or GSM networks using HSPA+, also known as UMTS, for data. DMP made the decision to build alarm communicators supporting these technologies because they provide the optimal balance of affordability, availability and longevity.

Cellular Alarm Communications History

The alarm industry began offering cellular communicators using a digital cellular data connection in the mid-2000s. This was a significant change from earlier generation cellular alarm equipment that was designed to operate over an analog voice connection, thereby entailing per-minute voice charges every time communications were sent between the alarm system and the central station monitoring the account. These charges made the first-generation cellular alarm systems too costly for many installations.

Alarm communicators designed to use a cellular data connection operate over the same cellular data networks that carry email and Internet traffic to smartphones, tablets and laptop computers. Service is billed based on the megabytes of data sent. Because a typical alarm signal is only about 66 bytes, the cost of using digital cellular alarm communications is substantially lower than the cost of using first-generation alarm communications.

When wireless network operators began deploying second-generation and third-generation (2G/ 3G) cellular networks based on digital technology, some network operators chose to use a technology known as GSM while others chose CDMA. Both terms refer to network technologies that support voice and data communications, but the two types of networks were not interoperable with one another.

When the alarm industry began manufacturing digital cellular alarm communicators, all manufacturers initially used a form of digital data technology specific to GSM networks known as GPRS. For several years, no alarm manufacturer offered equipment that worked on CDMA networks.

In recent years, wireless carriers have deployed faster and faster data networks to meet customer demands for higher data transfer rates to support bandwidth-intensive applications such as web browsing and streaming video. Wireless carriers with GSM networks initially deployed faster digital cellular data capability known as HSPA, followed by an even faster option known as HSPA+. HSPA+ is now deployed throughout a large portion of the U.S.

Initially most people considered both HSPA and HSPA+ to be 3G technologies but since then some carriers have begun to call HSPA+ a 4G technology. 4G is also the term used for a brand new network technology called LTE that is being deployed by both GSM and CDMA network operators.

As network operators have deployed HSPA and HSPA+, they have left their GPRS networks operational until now. Major U.S. wireless operators that use GSM have said that they plan to phase out or severely scale back their GPRS networks within a few years so they can convert the underlying wireless spectrum to LTE. However, based on typical cellular technology deployment patterns, GSM network operators are expected to continue to operate HSPA+ networks for about a decade.

As an alternative to HSPA+, DMP now offers digital cellular communicators that work on CDMA networks that use 1XRTT technology, which is the most widely available data communications technology used with CDMA. Unlike wireless carriers with GSM/GPRS networks, wireless carriers with CDMA networks have not announced plans to phase out or severely scale back those networks.

In comparison with LTE, both HSPA+ and CDMA are more widely available – and because both HSPA+ and CDMA are more mature than LTE, the underlying communications components are considerably less costly, enabling DMP to offer digital cellular communications supporting HSPA+ and CDMA at the price levels that security dealers have come to expect.

DMP Digital Cellular Solutions

All DMP alarm panels can use either HSPA+ or CDMA digital cellular communications with the exception of the XTL.

XT30/XT50 or XR150/XR350/XR550 panels not originally configured with cellular communications can add cellular capabilities via 263 series expansion cards. The 263C provides CDMA communications while the 263H uses HSPA+.

The 263C and 263H allow alarm messages to be communicated to an SCS-1R or SCS-VR receiver, providing fully supervised alarm communications. The 263C or 263H expansion cards are installed in the panel enclosure and powered by the panel so no additional enclosure, power supply or battery back-up is needed. Installation is plug-and-play.

To add digital cellular communications to XR100/XR500 series panels, security dealers should use the 464-263C module for CDMA communications or the 464-263H for HSPA+ communications. These modules can be plugged onto the XR100/XR500 panel boards inside the panel enclosure. No additional enclosures, power supplies, batteries, cabling or conduit connections are required, and either module can be equipped with a local or remote antenna.

The 263H and 464-263H include SIM cards for activation on the SecureCom network. Instead of a SIM card, the 263C and 464-263C are activated with a MEID number.

The XTLC wireless panel comes standard with CDMA cellular on board.

800-641-4282
www.dmp.com
Designed, Engineered and Assembled in the USA
INTRUSION • FIRE • ACCESS • NETWORKS
2500 North Partnership Boulevard
Springfield, Missouri 65803-8877